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ABSTRACT

The method and the control system are used for determining a portion of locomotion and a phase of locomotion portion in view of controlling an actuated prosthesis in real time. Accordingly, the method comprises receiving a data signal from a plurality of main artificial proprioceptors, obtaining a first and a second derivative signal for each data signal, obtaining a third derivative signal for at least one of the data signals, using a set of a first state machines to select one state among a plurality of possible states for each artificial proprioceptor with the corresponding data and derivative signals, generating the phase of locomotion portion using the states of the main artificial proprioceptors; and using a second state machine to select the portion of locomotion among a plurality of possible portions of locomotion using events associated to the data signals. It is particularly well adapted for the control of an actuated leg prosthesis for above-knee amputees.